

Appl. No. 09/944,569
Amtd. Dated July 21, 2005
Reply to Office Action of February 24, 2005

Docket No. CM03387J
Customer No.. 24,273

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for optimizing supply modulation in a transmitter, comprising:
 - providing a signal to be transmitted, the signal having an envelope;
 - providing a modulation signal to a power regulator, the power regulator for providing a supply voltage to a radio frequency power amplifier (RFPA), the modulation signal substantially corresponding to the envelope of the signal to be transmitted;
 - comparing an actual signal to be transmitted by the RFPA with an expected signal at [some] a point in the transmitter prior to the RFPA; and
 - adjusting the modulation signal in response to detecting a deviation of the actual signal to be transmitted from the expected signal to maintain a desired compression level of the RFPA.
2. (Original) A method for optimizing supply modulation as defined in claim 1, further comprising linearizing the signal to be transmitted.
3. (Original) A method for optimizing supply modulation as defined in claim 2, wherein the linearizing comprises linearizing by cartesian feedback.
4. (Original) A method for optimizing supply modulation as defined in claim 3, wherein the comparing comprises comparing reference baseband signals with summed baseband signals.
5. (Original) A method for optimizing supply modulation as defined in claim 1, wherein the comparing comprises comparing a low level RF signal with an amplified RF signal at the input and output, respectively, of the RFPA.

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6. (Original) A method for optimizing supply modulation as defined in claim 1, wherein the comparing is performed by a digital signal processor.

7. (Currently amended) A transmitter for optimizing a supply modulation, comprising:
a radio frequency power amplifier (RFPA) for amplifying a low level RF signal and providing an amplified RF signal;

a power supply for providing power to the RFPA in correspondence with a modulation signal supplied to the power supply;

a means for generating an envelope of a signal to be transmitted and providing the modulation signal to the power supply, the modulation signal substantially corresponding to the envelope of the signal to be transmitted; and

a means for comparing an actual signal to be transmitted by the RFPA with an expected signal at [some] a point in the transmitter prior to the RFPA;

wherein the modulation signal is adjusted in response to detecting a deviation of the actual signal to be transmitted from the expected signal to maintain a desired compression level of the RFPA.

8. (Original) A transmitter for optimizing a supply modulation as defined in claim 7, further comprising means for linearizing the signal to be transmitted.

9. (Original) A transmitter for optimizing a supply modulation as defined in claim 8, wherein the means for linearizing comprises cartesian feedback.

10. (Original) A transmitter for optimizing a supply modulation as defined in claim 9, wherein the means for comparing compares reference baseband signals with summed baseband signals in the transmitter.

11. (Original) A transmitter for optimizing a supply modulation as defined in claim 7, wherein the means for comparing compares a low level RF signal with an amplified RF signal at the input and output, respectively, of the RFPA.

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12. (Original) A transmitter for optimizing a supply modulation as defined in claim 7, wherein the means for comparing comprises a digital signal processor.

13. (Currently amended) A method of modulating a supply voltage supplied to a radio frequency power amplifier (RFPA) in a transmitter, comprising:

providing a signal to be transmitted, the signal having an envelope;

providing a modulation signal to a power regulator, the power regulator for providing the supply voltage, the modulation signal substantially corresponding to the envelope of the signal to be transmitted; and

adjusting the modulation signal to avoid excess gain compression at a gain stage of the transmitter, wherein adjusting the modulation signal deviates the modulation signal from autonomous correspondence with the envelope of the signal to be transmitted.

14. (Original) A method of modulating a supply voltage as defined in claim 13, further comprising linearizing the signal to be transmitted.

15. (Original) A method of modulating a supply voltage as defined in claim 14, wherein the linearizing comprises linearizing by Cartesian feedback.

16. (Currently amended) A method of modulating a supply voltage as defined in claim [[15]], wherein [[the]] adjusting the modulation signal comprises [comparing comprises] comparing reference baseband signals with summed baseband signals.

17. (Currently amended) A method of modulating a supply voltage as defined in claim 13, wherein[[the]] adjusting the modulation signal comprises [comparing comprises] comparing a low level RF signal with an amplified RF signal at the input and output, respectively, of the RFPA.

18. (Currently amended) A method of modulating a supply voltage as defined in claim [[13]] 16, wherein the comparing is performed by a digital signal processor.